

Fruit Growth and Dropping, Alternate Bearing, Productivity and Leaf Chemical Composition of Thirteen Olive Cultivars Grown under Fayoum New Land Conditions.

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Abstract

This investigation was conducted during three successive seasons 2006 2007 and 2008. to evaluate thirteen olive cultivars namely; **Arbq., Cair., Chem., Cora., Fran., Hojb., Kor., Manzl., Manzl.C., Mora., Pic., Picd. and Vill.** grown in Kom Oshem farm, Fayoum Governorate and established through the Egyptian Spanish project belonging to the Ministry of Agriculture in Egypt. Most of these cultivars are newly introduced to Egypt and consequently have not been evaluated before under Fayoum climatic conditions. Also, the aim of the data for 2006 was considered to be primarily to explore the behavior of growth, flowering, fruiting and alternate bearing habits.

Fruit growth rate was greatest early after full bloom till 60-120 days according to cultivar and season. Then it became slowly in midseason, After that, a rapid increase in growth rate occurs till 165 days from full bloom, followed by a final slow growth rate at harvest approaches for all the studied cultivars expect in case of Frantoio,

Arbequina and Coratina cvs. which the growth rate increased till the end of the season.

Fruit drop percentages were the highest after 30 days from fruit set (at the beginning of June) and decreased gradually during the growing season and reached the lowest percentages after 120 days (at the end of September) from fruit set, then increased at pre-harvest period (at the end of October) for all the studied olive cvs. expect Frantoio.

Results showed that Manzanillo, Hojiblanca and Cairo 7 were the most productive, The alternate bearing habit was clearly observed in Picual, Picudo, Manzanilla Cacerna and Manzanillo trees more than for Koroneiki, Arbequina, Villalonga and Chemlali cvs. On the other hand, Coratina, Frantoio and Moraiolo olive trees were the lowest in productivity.

Moraiolo and Manzanillo cvs. produced the heaviest fruits, followed in descending order by Villalonga, Manzanilla Cacerna, Picudo and Picual, Hojiblanca, Coratina, Frantoio and Cairo 7 cvs., respectively. Meanwhile, the lowest values of fruit weight were 1.75, 1.73 and 1.03g for